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MEMORANDUM FOR THE RECOR	D		
* .	otography to	Estimate Free Wo	orld
1. At the request of in a meeting on the above chaired by Chairman of the Steering names of other persons a list.) opened had been called to select Free World areas for white available. Before explosusked me to comment on the R&D program on this subject to the select program on the select program of the select program on the select program of the select program on the select program of the s	of the Whattee for the modern trending are set the meeting the for feasible or the current state of the current st	ite House Staff, for Project shown on the at g by stating tha bility studies, s cography is alrea	The 25%1 tached t it 25%1 pecific dy
2. I therefore summer developed by ORD in Projection	marized brie	fly the methodolo including its s	gy tudy 25X1
developed by one	<u> </u>		25X1
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evaluation proves to be extending the test prog	favorable.	we will consider	
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and NRO flight programs	. In this b	timating the prod	duction
of major crops in denie time our major target i	d areas and	THAT AL THE PIC	SOTTO
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I was supported substance Chief, O/ORD/DDS&T for Project	, the senior	Agency person 2	
3. Following some	sh had discid	sed very little	reported KH-4
imagery over the Free V	vorld that me	et requirements i	25x1 25x1
and to bushing the		*	25XI 25X1
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agricultural estimating -- repeated coverage of the same areas during a single growing season, by cloud free imagery of useable quality. After viewing the list of locations, John Wilkes of AID stated pointedly that the available imagery was of little interest to AID because it did not include extensive coverage of major less developed countries such as India, Pakistan, and Turkey.

4. For Agriculture, Archibald Park expressed the more comprehensive objective of estimating world production of some twelve food crops and livestock inventory. He, too, indicated disappointment at the limited quantity of useable film over Free World areas for which ground truth is also available, as a basis for the preparation of feasibility studies

Park's initial reaction was that the only available repetitive coverage was that over the Soviet Ukraine. He will consult with his people to determine whether ground truth of acreage and yields would support the use of this film for a feasibility study. Other alternatives would include the use of KH-4 coverage over the US for similar purposes, although Park's interest in basic food crops probably eliminates a number of US locations, such as Phoenix, Arizona, and the Imperial Valley in California, for which most of the available imagery pertains to specialty crops. Park will discuss with his people and advise Steininger concerning future intentions.

will consult further with CIA intelligence components on the availability of KH-4 photography on the Free World and on the progress of Project

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- 6. In conclusion I judge that Agriculture and AID require further clarification concerning the extent to which the present and anticipated NRO collection programs can support the interests of non-intelligence agencies, together with the conditions under which such support might be provided.
- 7. Exploitation of overhead imagery to estimate agricultural production is not comparable to the identification of strategic objects, but requires a

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relatively complex operational methodology, the feasibility of which is still being explored. Agriculture and AID need to be further apprised of this consideration and of the desirability of coordinating the overall effort of the government in this direction.

Executive Assistant Economic Research

Attachment:

List of attendees

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Principal Attendees, Ad Hoc Meeting on Availability of Overhead Imagery for Estimating Agricultural Production in Free World Areas, 10 September 1968, at NPIC

Office of Science and Technology

Department of Agriculture

Archibald B. Park Victor I. Meyer

AID

John D. Wilkes

Autometrics Corporation

CIA

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PHASE II

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#### Objective:

To study the Talent-Kayhola photography with the nim of determining the utility of this photography for AID (as a representative user agency), and to prepare plans for Phase III.

#### Study Areas:

From the large study region across the waist of Latin American (1.2 million square miles), three study areas have been selected. These areas were selected for a wide variety of reasons which will become evident from the characterizations outlined below.

## Area I (28,800 Square Miles)

This strip cuts across the Atacama Sesert, both Andean ridges and the high plateaus between them including take Titicaca. Most of the agriculturally useful land is now in use, so no large areas of new agricultural land are available. Land use, though relatively complete, is being carried out in a destructive way, as evidenced by a high dagree of soil erosion.

Auch ground truth exists so the study of this area should be aimed at ways in which this land could become more productive., i.e. dry areas that might be irrigated, salty areas that might be drained and reclaimed and destructive soil erosion reduced.

#### Area II (9,000 Square miles)

This area includes a broad expanse of the relatively unknown Eastern Andean foothills and a portion of the flat Amazon Basin. This area

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good reasons to expect that large areas of useful land await discovery, characterization and development. This is an area of high prospects for the discovery of new land resources as opposed to Area I which requires new ways to improve relatively well known resources. Area II is remote, frequently cloud covered and access is difficult, so it more closely resembles a denied area in the manner in which it can be studied.

## Area III (92,000 Square Miles)

This area includes the broad estuary of the Rio de la Plata and portions of the Argentine Pampa as well as some of the Uruguyan coastal plain. About half of the area is water and was selected for this reason. As in Area I the agricultural land of Area III is nearly all in use but not necessarily the best economic use. Much Class I and Class II land is under extensive grazing systems. Since the agriculture of the Area is well known, the study of Area III will be mostly confined to Oceanographic and Estuarine topics.

Study Hethods

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## Area I (23,800 Square Miles)

a. Overlays of a very general nature, showing the most prominent features such as Surface Configuration, Drainage, Gaology, Land Use, Vegetation and Cultural Features. This exercise is intended to learn assauch as possible about the entire area and to estimate the utility of the photography for preparing general synoptic overviews of large areas in relatively short periods of time. Estimates will also be made of the usefulness of such overviews.

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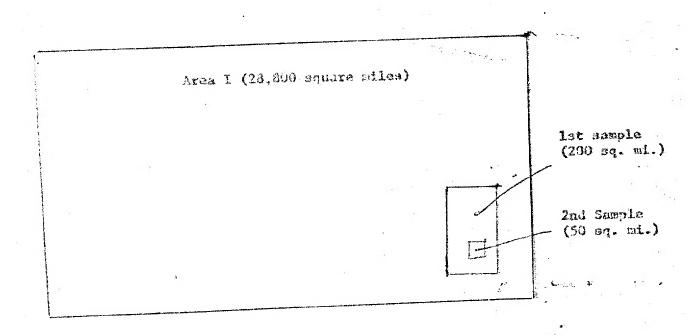
the overview will be delineated for more intensive study. The team will focus its attention on this sample area and attempt to extract as much detail as possible. The sample area will include a watershed and the agricultural lands affected by the watershed. These small sample areas must be limited in sixe and number occause of time limitations out the team feels that whatever level of detail that can be extracted from one sample area can be extracted from another similar sample.

c. A still smaller sample area will be selected

for further detailed study.

A chart of the studies made on Area I could take the following

form:



over slightly. At this point a decision must be made on whether or not to proceed on Area II.

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#### Area II (9,800 Square Miles)

- a. A general overlay will not be made since the main reasons for doing so will be accomplished in Area I.
- b. Sample areas will be choosen from Area II and will be treated in much the same manner as in Area I.

c. sub-samples will be studied as in

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Area I. Should be completed by 6 October.

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#### Area III (92,000 Square Miles)

The intensive study of this area will run concurrently with that
of Area II since different people will be involved

If time permits, a sample of the land area will be studied by the rest of
the group. Should be completed by 6 October.

By the time the team has completed or nearly completed the first sample of Area I wo will be able to make a better judgment on equipment requests and needed assistance from the Corps of Engineers.

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#### Interpretation Overlays

An attempt will be made to produce composite everlays on Area I and Area II that would combine data from several disciplines so that development possibilities can be brought out.

